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INDUSTRIAL CONSCRIPTION¹

I

The raising of vast sums of revenue by taxation and bond issues is too often regarded as constituting in itself an adequate preparation for war. "Our answer to Germany is an immediate bond issue of \$2,000,000,000 oversubscribed by nearly 50 per cent." "The war should be paid for by money raised by taxes and bonds in 'proper' proportion." Statements such as these are all too prone to divert our attention from the ultimate requirements of the situation, which are industrial rather than financial. "Financial mobilization" is important only as a means to an end—and the end is *industrial* mobilization. It is my purpose in this paper to discuss the process or machinery by which a nation may reorganize its material resources for the conduct of modern war; that is, how our industries may be transformed and made to serve in the most efficient manner the necessities of war rather than the interests of peace. The problem before us, as I have worked it through, involves a discussion of two substantially different methods of industrial reorganization—the one by means of what I may call the financial machinery and the other by the process of commandeering, or industrial, conscription. Since it is the financial method that we have thus far been mainly following in the United States—since, indeed, in the common view this is the one and only means of preparing for war—it is important that we give this method our first attention.

Before we can make a thoroughgoing analysis of the problem before us we must first face the actual requirements of the situation so far as the United States is concerned. In making this analysis we must of course start with the assumption that we are in dead earnest in the war, that we are going to do all that is in our power to bring the conflict to an early and successful termination—

¹ Presented before the conference of the Western Economic Society and the City Club of Chicago, June 21, 1917. It is here revised in the light of subsequent developments.

to the end that the ultimate costs of the war both in terms of property and of human life may be reduced to a minimum. What, then, is required of us as a nation?

Four things, in the main, are required of the United States in the next year:

1. Ships—as many as can be built.
2. Munitions and materials of war—as much as can be supplied.
3. Food—as much as can be produced.
4. Soldiers—as many as can be trained.

Numerous subclassifications might be made here, but this simple statement of needs will most effectively serve our present purpose. It will be observed that money is not included in the list of things required. And in fact money will not win the war for us. It is merely a means to an end. A thousand new gold mines discovered tomorrow would have but little effect on the outcome of the war. The rôle that money does play in the process of mobilization for war will be discussed directly. But for the present attention must be centered upon goods and men—not upon money.

The problem that is before us in supplying the unlimited quantities of ships, munitions and materials, food and soldiers, that are required may be made clear by a simple diagrammatic statement:

50,000,000 workers† ordinarily pro- duce	{	1. Indispensable goods:
		a) Prime necessities for physical and mental efficiency
		b) Replacement of capital goods used in producing such necessities
		c) New capital goods used in producing necessities
		2. Dispensable goods:
		a) Luxuries and many conventional necessities
		b) Replacement of capital goods used in producing these dispensable commodities
		c) New capital goods for producing luxuries

If we place two million men in the army the number of industrial workers this year will be reduced to 48,000,000. This loss of

† I assume 50,000,000 workers; there may be more or less, but the exact number is quite immaterial. Call it x workers if you prefer.

numbers may, however, substantially be made good by impressing into the industrial ranks those who are normally not employed. Let us therefore assume that we shall have the same working force this year as last. What now are the alternatives before us as a people?

1. Produce none or few of the indispensable war supplies that the situation requires.

2. Speed up the workers and increase efficiency to a point where we can produce, not only the customary amounts of both classes of goods, the dispensables and the indispensables, but in addition the unlimited quantities of ships, munitions, materials, and food required for the war.

3. Produce less of the things normally produced—the dispensables—and transfer our national energy into the production of the indispensable sinews of war.

I take it that it will be at once conceded that the first alternative is out of the question; it stands as an admission of failure.

The second alternative is regarded by many as adequate, or substantially adequate, to the task before us. We are said to be a big, rich, powerful country that can do anything once we have buckled to the task with characteristic American energy and ingenuity. "We will get there somehow." Now while we can doubtless speed up somewhat, we cannot by that means produce more than a fraction of the munitions, ships, and food required. For it must be observed that the speeding up of workers in *present* lines of production will merely give us additional quantities of the things normally produced, luxuries and other dispensables, along with the things that are indispensable. In so far as we are at present engaged in producing food, ships, and war materials, speeding up will help. But it will scarcely begin to solve the problem. At best it will give us a little more of the indispensables required for war.

There is also much current discussion of the wonderful gains that may be made through increasing efficiency. It is argued that we should make our patriotic impulses the occasion for the universal introduction of scientific management. It of course goes without

saying that we should do all that we possibly can to further the improvement of industrial methods; and doubtless much may be accomplished. But it must be remembered: first, that increased efficiency will be of importance only in so far as it results in the production of the indispensable commodities; secondly, that a time of speeding up and of reorganization and dislocation in industry is not a favorable time for experimentation with industrial methods; thirdly, that the number of trained men available for the introduction of scientific management is very limited, and that, in any event, business managers, under the spur of private gain, have been endeavoring to improve their methods as fast as possible. Important elimination of waste may be accomplished in certain lines by the co-operative action of normally competitive concerns, as in railroading; but, in the large, we cannot expect too much from the rapid improvement of business processes in the short period of a few months. In any event it is certain that speeding up and increasing efficiency will not enable us to render our maximum service.

At this point it should be emphasized that the position of the United States is unique, so far as the allied nations are concerned. England, for instance, at the outbreak of the conflict could import vast quantities of munitions and supplies from other countries.¹ England, therefore, had a fourth alternative, one denied to us because the struggle is now world-wide. All the materials of war that we furnish must come from the current energy of our own people. We must ourselves produce these ships, munitions, food supplies, and stocks in the coming months. There is no one else to do it for us. In this connection I should like to emphasize with all the power at my command the argument that we cannot by bond issues shift the burdens of this war to future generations. The mere fact that all of us—as represented by the government—borrow from some of us—as represented by bond purchasers—does not change the other essential

¹ Imports have been paid for by England in three ways: first, by exporting gold (\$1,400,000,000); second, by reselling securities (\$2,000,000,000); third, with credit (\$2,000,000,000). These figures are for the first two and a half years of the war.

fact that we, the people within this country, must actually produce practically all the war materials we are to have for use in the war.

It would seem to follow from the foregoing analysis that the third is the only alternative open to us; and this inevitably means that labor and capital—human energy, if you please—must be shifted from the places that do not count to the places that do count in the task we are undertaking. It means that capital and labor now being employed in building machinery, factories, etc., that are not required for war purposes must be transferred to the construction of factories and workshops that can be used in manufacturing munitions and materials of war; it means that factories already built that are now being used for the manufacture of dispensable commodities, luxuries, etc., must be (where possible) made over into factories that can manufacture *indispensables*; it means that where these factories cannot be remodeled for war purposes they must be closed, and their laborers, at least, released for service that counts.

If perchance there are those who are still unconvinced that substantial readjustments of industry are necessary, who feel that some slight and gradual reorganization will suffice, they should give attention to the specific program that the government has undertaken.

The Secretary of the Treasury tells us that the United States government and our Allies will spend from 16 to 20 billions of dollars in our markets during the first year of the war—20 billions of dollars—a sum roughly equivalent to 20 dollars a minute from the birth of Christ to the present time. Can we produce this coming year anything like \$20,000,000,000 worth of ships, munitions, materials, and food if we devote our national energy along customary lines, if we produce dispensable commodities in the usual amounts or even substantially the usual amounts? To ask the question would seem to answer it. But let us nevertheless be specific. How much is \$20,000,000,000? What proportion of our national energy will be required for the production of \$20,000,000,000 worth of war materials?

There is a common fallacy abroad in the land to the effect that our wealth is increasing annually with fabulous rapidity—at the rate of approximately \$50,000,000,000; and that in consequence the raising of a meager 16 or 20 billions for the purposes of war is a mere bagatelle for America. But a very substantial part of this dollars-and-cents increase is illusory; for it consists merely in rising prices and finds no representation in additional tangible commodities. We can protest and fight against rising prices, but when it comes to war we will find it difficult to fight with them. Something more tangible, I fear, will be required.

The most reliable estimates of our total national income show that we produce annually from thirty-six to forty billion dollars' worth of wealth. This does not mean that the capitalized value of our national wealth increases by forty billions a year, for a large proportion of our annual products is consumed during the year. It means merely that the earnings of labor and capital expressed in terms of money equal this sum. Assuming this estimate to be roughly correct, from 40 to 50 per cent of our total national energy will be required to produce the supplies demanded by this year's program. This will inevitably mean very extensive readjustments of industry, and readjustments in the radical sense of giving up lines of activity that are unimportant for war purposes and transferring labor and capital to the industries which are indispensable in time of war. And note, if you please, that there is no reason why we should be content with a 50 per cent readjustment, provided we can do better. Our program calls for *indefinitely* great quantities of munitions, supplies, and ships. The faster we reorganize our industrial life and the more extensive the material aid we render, the smaller will be the ultimate cost of the war, and the sooner will the nightmare end. The government has fixed, at a guess, 16 to 20 billions as the amount of supplies of all kinds that we can hope to furnish this year. But if we can do better we should by all means do so. *All* the shifting of energy that can possibly be effected should be the goal of our endeavor.¹

¹ The spring estimates of the Treasury Department were for \$9,000,000,000. It is significant that within four months the total estimates of the minimum requirements should have been doubled.

II

In the discussion thus far we have merely raised the problem of industrial mobilization for war. Now as to the mechanism by which this shifting of social energy may be accomplished. As already indicated we are to discuss two different methods of accomplishing the desired result—the financial method and the method of industrial conscription. The financial method looks to monetary inducements in the form of high wages, high prices, and large profits to effect the necessary readjustments. Close analysis is necessary here, for the precise rôle that money plays in industrial society is confusing at all times to the economic novice, and it is perhaps especially so in connection with war. Our government is to raise the first year of the war, say, \$20,000,000,000. It is to spend this vast sum in inducing people to furnish the materials that are required for military operations. These funds are to be passed through the Treasury Department in successive instalments, giving purchasing power while there, but passing, in the act of purchasing, back again into the channels of industry.¹ Money, then, is the means by which the government is enabled to buy the things it needs.

While the process thus far is perhaps generally enough understood, it is usually not so clear that if the commodities required by the government are to be found ready on the market when they are desired, the government must use the money placed in its hands in such a way as to induce capital and labor to be shifted into the production of the supplies and materials demanded.

Let us take some concrete examples. X, a manufacturer of automobiles, is offered a contract by the government to produce motor trucks for army service. If the price offered is attractive, and if the factory can be easily adapted to the manufacture of motor trucks, the manager will usually readily accept the government

¹ There is much apparent mystery as to how the government can raise \$20,000,000,000 when there are only about \$5,000,000,000 in the country. One way obviously is by having, say, \$400,000,000 pass through the Treasury Department 50 times, or once a week for 50 weeks. In fact, however, actual gold or actual money is not used; credit instruments in the form of checks and drafts will be the means of making payments; and, moreover, the Treasury uses the banks as custodians of its funds. Therefore it can hardly be said that any money really passes out of circulation at all.

contract. Here we have a diversion of energy without great difficulty and without having to pay enormously high prices to accomplish it. But let us take a different case. Y is engaged in the manufacture of candy, or perfumery, or beer, or carpets. The government seeks to induce Y concerns to manufacture war supplies. To do so would require extensive rehabilitation of plant if not indeed new factories altogether. Will Y change the character of his business? Purchasers of candy, perfumery, beer, and carpets engage in direct competition with the government and seek to induce Y to continue his present business, by demanding the usual output of such commodities. The government must here greatly outbid private spenders if it is to secure the production of war supplies.

In this connection it must be borne in mind that the government is not a very effective competitor for either labor or capital—it must pay much higher returns than normal industry if it is to attract the requisite production. Why? Because the laborer does not usually feel the call of patriotism or the lure of adventure except when he contemplates entering the active military establishment. The pecuniary motive *alone* must generally be looked to as the means of inducing him to enter the industrial army of the government. He will not often voluntarily leave his position and apply for one in munitions factories at the same wages, because of the costs incident to transferring to a new (and often distant) employment, and because of the ephemeral nature of the demand for war materials. Very high wages are therefore required if he is to be tempted.¹

Similarly, the government must pay very high prices for the materials supplied if the capitalist is to be tempted into new and uncertain fields. Can he get efficient laborers for this work? How high wages will he have to pay? How long will the war last? These are but a few of the questions the industrial manager has to ask and answer as best he may. Generally speaking, he will assume the speculative risks involved if the financial inducements

¹ Unskilled carpenters, for instance, are now paid around \$80 a week, counting overtime, in building cantonments.

are high enough, but not otherwise.¹ And not the least of his present concern is the prospect of excess-profits taxes and government control of prices. Will the point at which the tax begins make allowance for his increased risks, or will it be at a flat rate making no discrimination between standardized peace business and uncertain war manufacture? If the latter, he will usually not be willing to make the change. This is one of the points that our friends who urge taxation "to the bone," especially on war business, quite generally overlook. Excess-profits taxes that do not leave open an inducement to transfer from peace to war business will be suicidal, so long as we rely upon profit margins as the method of industrial shifting. It is very significant to note, in this connection, that the present tax bills take no cognizance of this vital consideration. The development of a scientific system of taxation in time of war must take as its point of departure the industrial requirements of the situation; and ordinary peace-time principles of finance may have to assume a position of secondary importance. Thoroughgoing reorganization of industry is even more imperative than distributing the burdens of taxation among the various classes of society according to their relative abilities to pay at the moment. For the ability of any or all to pay ultimately may be dependent upon immediate industrial mobilization. Taxation may be made an effective instrument for promoting rapid industrial reorganization or it may be made an agency that works at cross-purposes with the paramount requirements of the situation. In this connection it should be observed that the argument for conscription of income does not start with this point of view. It runs rather in terms of equality of sacrifice. The real corollary of conscription of men for military purposes is not conscription of income but conscription of men and of capital for the industrial army.

Similarly, if the price control that is developed is indiscriminate, if, owing either to popular agitation or to governmental unwisdom, in lines of activity into which we are endeavoring to attract

¹ A few conspicuous cases may be recalled where industrial managers have volunteered their services to the government. But these are practically always offers from those whose business is of a war type; and this does not therefore result in a diversion of energy from the lines of activity that could be dispensed with.

additional labor and capital prices are fixed so low as to offer no adequate insurance for the risks and uncertainties of war business, few will be found who will care to assume the hazards. There is a most serious problem here. The very high prices for war materials that are absolutely sure to prevail in the near future will inevitably develop a powerful agitation for rigid price control, "to prevent wealthy malefactors from obtaining exorbitant profits from fat war contracts." Excessive prices should obviously not be permitted, but what is *excessive*, under the circumstances? The government is in fact relying upon the price and profit system to attract industry into governmental service; but since the government does not clearly understand this system, since indeed it is in the main blissfully unaware that it is employing any such device for diverting industry from private to public service, there is grave danger of the government's sawing off the limb it is sitting on. Here and there we now find evidence that the government recognizes that price control must not be allowed to hamper enterprise, but in the main the thought in this connection assumes that it is only with establishments already engaged in producing war materials that we need be concerned, or at best with plants which would require but slight rehabilitation in order to be devoted to war production. The plea for patriotic production of materials is seldom directed specifically to establishments now engaged in the production of luxuries and nonessentials; they have not been generally urged to convert themselves into munitions factories. Nor has the price-control discussion to date specifically had this problem of industrial shifting in mind.¹

III

The foregoing analysis indicates clearly enough that the process of industrial mobilization through the agency of the pecuniary system must at best be extremely uncertain. There remains to be considered the working of other forces which greatly increase the difficulties inherent in the situation. In a preceding paragraph attention was called to the competition between the government

¹ For an article by the present writer elaborating this argument on price control see *The City Club Bulletin* (Chicago), September 10, 1917, pp. 217-24.

as a spender for war supplies and private persons as spenders for ordinary consumers' goods. In connection with this competition we meet with a popular fallacy—or rather a combination of self-interest and fallacy—which is further inimical to the rapid mobilization of our industries. I refer to the “business-as-usual” movement.

At the outbreak of the war our first reaction was quite generally in favor of substantial economizing. Immediately following the open letter of President Wilson early in April urging a nation-wide campaign of economy, we entered upon a few weeks of decided retrenchment. How real this curtailment of our customary expenditure was may be guessed from the protest it soon evoked. Manufacturers of many classes of luxuries and even of conventional necessities and retailers of general merchandise shortly began to advertise how ruinous a campaign of rigid economy would be for the country (as well as for themselves). Prominent bankers and business men very generally gave indorsement to business as usual rather than strict economizing. The press editorials generally urged that we should not “rock the boat”; that hysterical economizing is senseless; that we must allow business to proceed much as usual or we should kill the goose that lays the golden eggs so necessary to the successful prosecution of the war. The possibility of widespread closing of factories, throwing thousands of laborers out of employment and resulting in general depression, caused genuine concern in the world of business. The government also back-pedaled for a time. Certain members of the Council of National Defense went on record against undue economy, and the Secretary of the Treasury, while urging the elimination of waste and of reckless extravagance, apparently stood for business very much as in normal times. The general position of the American people during the early summer may, I believe, be stated substantially in this fashion: “Eliminate extravagant waste, perhaps cut down a little on food where there seems to be a shortage, but otherwise spend virtually as usual. Above all, don't economize to a point which will cause industrial or business disturbance.”

The situation in which we found ourselves at the time recalls the experience of England during the early months of the war. After the first terrific shock of the conflict had spent its force, as soon as the nation got its second breath, a tremendous campaign for business

as usual was inaugurated. The leaders of opinion in England, politicians and the press as well as business men, gave it virtually unanimous indorsement. "Normal living" was heralded as a cardinal virtue, as one of the supreme requirements of the hour. The opinions of the time were, moreover, translated into action and the year 1915 was a golden age for the English lower classes. The records show that the high wages paid in both military and civil life engendered a period of extravagant expenditures. More talking machines, expensive footwear, cosmetics, and passementerie were purchased than ever before, and the general scale of living of the lower classes was substantially raised. Our Council of National Defense quotes with apparent approval that Selfridge's sales in London in 1915 were \$375,000 in excess of the year previous—this in spite of the great reduction in purchases by American tourists. This great increase in the demand for luxuries and other dispensables obviously served to increase the profits of ordinary industry and to render it still more difficult to attract the requisite labor and capital for military purposes. Rather than aiding or compelling the necessary readjustment of industry the people of England were unconsciously seriously retarding it.

I use the word *compel* advisedly, for the rank and file of consumers are in a position of strategic importance. By refusing to buy the things that do not count we can force industry into other channels. The government, through the price and wage system, seeks to attract; we have it in our hands to aid the government by the process of repulsion, by refusing to buy dispensable commodities. But we also have it in our hands to work at cross-purposes with the government, by purchasing as usual and thereby preventing or seriously retarding the mobilization of industry.

If England had not possessed a fourth alternative, that of importing vast quantities of supplies from abroad, the war would long since have terminated in a peace *with* victory for the Central Allies. But even with this outside aid England found it necessary, thirteen months after the war started, to abandon in large measure the financial method of industrial mobilization. But more of this in a later section.¹

¹ Canada is not even yet industrially mobilized for war, and is apparently still taking pride in her ability to consume as usual.

Our own business-as-usual movement has likewise been unconscious aiding and abetting of the public enemy. Unwittingly we have been doing all in our power to delay the process of industrial rehabilitation. And unless we should almost immediately face about and practice the most rigid economy during the coming months the method of industrial mobilization upon which we are still in the main relying is foredoomed to failure.¹

We might indeed succeed in raising the \$20,000,000,000 of revenue that is desired; but as already seen that is only the beginning of industrial mobilization. Even with coffers filled to overflowing the allied governments will have to wait indefinitely for equipment, munitions, ships, and food if the requisite social energy is not devoted to their production. It is an old saying that we cannot buy something with nothing; it is just as true that we cannot buy nothing with something—we cannot buy that which does not exist even if we have the purchasing power. We always come back to the fundamental truth that we cannot devote our national energy to things that do not count for war purposes and devote the same energy to the production of the things that *are* necessary. This is a war of attrition, and our energy must be utilized in the best possible manner if we are to be crowned the victors in the struggle.

I have been drawing here rather a somber picture; one might perhaps be led to conclude that I have been arguing that so long as we rely upon the financial method of readjustment we shall never get readjusted. Such a conclusion, however, is not warranted,

¹ I would not wish to be understood as standing for economizing to a degree that would mean physical deterioration on the part of our people. Neither would I argue for the abolition of all forms of recreation, entertainment, culture, etc. The spiritual morale of a people is of the utmost importance; and the strain of war must be alleviated by powerful antidotes of pleasure and relaxation. But this can be done—it has been done on the Continent—without consumption as usual. To deny that tremendous sacrifices of material comforts, and even customary cultural or aesthetic enjoyments, may be made for a short interval without impairing physical or spiritual energy is to forget the past history of the human race and to close the eyes to the disciplined efficiency of Europe today. Moreover, a very important element that is usually overlooked by those who argue that we must have our normal recreations in war time is that war news and war activities are for a considerable period in themselves forms of excitement, if not of recreation, which compensate for the absence of many customary modes of diversion.

for eventually the method will succeed. Already, despite the efforts of business men and the press, there has been some economizing, and this autumn and winter will doubtless see a genuine impetus to the economy movement. Popular subscription to bond issues and heavy taxes on the rank and file of the people play a negative as well as a positive rôle in so far as they force retrenchment in individual consumption. Indeed, one of the strongest reasons, I believe *the* strongest reason, for having the public rather than the banks subscribe for bonds is that in this way a greater amount of economizing is secured and hence the readjustment of industry is hastened.

But these agencies are not such potent means of compelling economy as one might easily assume. For with succeeding bond issues the banks will doubtless advance even larger proportions of the total than was the case with the first issues—either directly, or indirectly through the process of loaning upon the previous issues as collateral. The efficacy of taxation as a means of enforcing economy obviously depends upon the extent to which this form of raising revenue is employed and upon the incidence of the particular forms of taxes that are levied. If we may judge from present indications no great aid may soon be expected from this source.

The most effective agency for compelling economy is, ultimately, rising prices of commodities. I say "ultimately" because the complete process of industrial reorganization appears to involve several more or less distinct stages: first, retrenchment, with the immediate shock of war; second, business about as usual; third, extravagant expenditures, because large purchasing power in the hands of the government means increased employment and substantially increased wages for the laboring classes; fourth, inflated prices and enforced retrenchment in the purchase of luxuries, and eventually even of many necessities. England has passed through all of these stages. In a somewhat less degree these various stages found concurrent reflection in the United States; but we are nevertheless apparently to have them repeated, with modifications and with less intensity, since our own entrance into the war. We have passed through the first and the second; the third we appear to be escaping, and the fourth, already under way, may normally be

expected to reach its height in a year or so. Eventually, perhaps in two years, we may therefore look to see industrial mobilization accomplished by the method of finance. But, conceding this, are we willing to wait that long? Dare we wait that long? Will two years be vouchsafed to us in which to get ready to give our maximum aid? Only Mars and Neptune can answer this. But in any event let it always be remembered that the longer we are delayed the greater will be the ultimate cost in both life and property.¹

It will be of interest at this point to present, as a practical check upon what some may be disposed to regard as academic theorizing, certain statistics recently prepared by the general staff of the United States Army. Table I is taken from War Department, Document No. 527. (W.C.D. 8121-39.)

These "tables of organization" were made in 1914, and are supposed to represent unit cost per division. It will be apparent, however, that the larger the scale of military operations becomes, the more the percentages in this table will be shifted to the right, that is to say, the larger will become the proportions that cannot be obtained on short notice. As the table stands, however, it will be observed that over 90 per cent of the ordnance supplies, amounting to almost 50 per cent of the total of all classes, cannot be obtained on three months' notice (how much more than three months might be required the general staff does not suggest). The

¹ At this point I should like to call attention to a fortuitous circumstance which was of tremendous aid in hastening Germany's industrial reorganization. At the outbreak of the war many of Germany's industries which were engaged in turning out luxuries and other dispensables were dependent upon importation for their raw materials. The source of raw materials was at once largely cut off by virtue of England's command of the seas, and these industries were therefore compelled to rehabilitate themselves almost immediately. They had no alternative other than to become munitions factories. But no such external factor will force our nonessential industries to transform themselves immediately. We shall have to wait, in the main, upon the slowly working mechanism discussed in preceding paragraphs. True, I am aware that there are some forcing conditions at work even in the United States. Some of our smaller industrial establishments find, in war time, that their customary raw materials are not to be had at all, or only at exorbitant prices, because of the government's heavy bidding at points farther back in the industrial system. This causes them very quickly to fall into line and join the ranks of those who are turning out supplies and materials for the government. But these cases are too few in number to be of any large service in connection with the process of industrial mobilization.

overwhelming proportion of the quartermaster supplies, second in importance, cannot be obtained in less than three months; and for procuring nearly all of the signal supplies, third in importance, more than three months will be required.

TABLE I

Kind of Supplies	Total Cost of Each Kind of Supplies	Can Be Obtained in Open Market in Great Quantities at Any Time	Can Be Obtained on Fifteen Days' Notice	Can Be Obtained on Three Months' Notice	Cannot Be Obtained on Three Months' Notice
ONE INFANTRY DIVISION					
		Per Cent	Per Cent	Per Cent	Per Cent
Signal supplies.....	\$ 293,751.35	2.11	0.6	0.2	97.1
Quartermaster supplies	3,283,121.27	1.6	1.6	96.7
Engineer supplies.....	18,439.67	9.9	2.5	41.8	45.6
Ordnance supplies.....	4,435,771.20	0.1	0.2	5.8	93.9
Medical supplies.....	110,059.09	10.0	9.3	80.7
ONE CAVALRY DIVISION					
		Per Cent	Per Cent	Per Cent	Per Cent
Signal supplies.....	\$ 283,456.37	0.1	0.6	1.5	97.8
Quartermaster supplies	4,716,974.81	1.2	1.6	97.2
Engineer supplies.....	17,070.77	13.0	2.4	63.7	23.4
Ordnance supplies.....	3,892,553.94	0.9	0.2	7.9	91.0
Medical supplies.....	135,145.92	8.9	8.9	80.4

Now in order to save time, that is, to shorten the interval required to produce the necessary supplies, the general staff makes two constructive suggestions:

1. Standardize all articles of clothing and equipment as far as possible, using designs that are ordinarily used by the civilian or which can be turned out in quantity from hundreds of existing factories.

2. Store up, in advance, dies, machinery, and samples of special munitions, so that in the event of mobilization hundreds of factories could be given the special additional equipment which would enable them to begin at once the manufacture of these special munitions.

These suggestions have, however, not been acted upon. But the most significant thing to note with reference to these recommendations is that it had not occurred to the general staff that difficulties or delays might be encountered in inducing these factories

to begin the manufacture of war supplies, even with the necessary special equipment available. All of the estimates in Table I are based on the assumption that there will be no hesitation on the part of business men in shifting their activities to the service of the government.¹ Business as usual, uniform price control, and undifferentiating excess-profits taxes are not included as decisive factors in the problems. In view of our previous analysis is it too much to say that if we should rely exclusively on financial inducements to shift industry to war channels, we might have to wait almost indefinitely for a considerable proportion of the necessary supplies? We should doubtless charge the delays to governmental inefficiency; but the main causes would lie farther back—in the financial method of industrial mobilization.

IV

Granting the underlying truth of the foregoing argument that extensive readjustment is necessary, many will, nevertheless, insist that any such rapid readjustment as I have indicated would be suicidal. It will be urged that hysterical economy would throw laborers out of employment and generally unsettle the business structure, and that the ensuing depression would render it impossible for us to finance the war. "We must have wages and profits if we are to pay taxes and subscribe for bond issues." Now while this is perfectly true, there need be no fear of a general reduction in the aggregate demand for labor during the war and no fear of a general reduction of profits. Business may well be substantially as usual when measured in *aggregate* quantities; it will have to be *unusual* only as to kind or quality. The coming months will develop enormous industrial activity so far as total demand is concerned. Every ounce of our national energy will be required to meet the needs of the situation. If the business-as-usual advocates distinguished between the *total amount* and the *kinds* of business, one could have no serious argument with them; but in

¹ It has doubtless been assumed by the general staff that slight rehabilitation of plants producing commodities similar to war supplies would suffice to meet the requirements of the situation. Extensive shifting of industrial energy involving the closing of factories and general scrapping of equipment puts an entirely different light on the problem.

the popular thought business as usual means in the main the same kinds of business we now have, and unfortunately this popular thought translated into action, into the purchase of the usual commodities, tends to be the decisive factor in directing our social energy.

But there nevertheless remains a serious problem in connection with the shifting process. What of the laborers who are thrown out of employment, if by rigid economy we compel a manufacturer of dispensables to close his doors? The answer obviously is that many of them will shortly find work in the production of food, in the building of munitions factories, and in the manufacture of supplies and materials. Some, usually but a few, will find themselves wholly unfitted for a different employment. It is often asked if it is fair to deprive such persons of the means of livelihood? One effective answer is that this is not a time for debating fairness and justice to individuals; if social or military expediency demands a given course of action certain individuals may have to suffer. Another answer that may be made is that these industrial misfits should be taken care of at public expense, out of the funds raised by taxation or bond issues. But, whatever the answer, we cannot let sympathy for these unfortunates stand in the way of diverting the energy of the rest of society to the fields in which it is needed. To see the situation in its true perspective we must center our attention always upon the alternative—that of failure in case we do not effectively mobilize our resources for the business of war.

What now of the employers—the manufacturers—who might find their doors closed as a result of mobilization enforced through this economizing of the people? In so far as they could convert their establishments to war service, well and good, for the new gains might well offset old losses. As for those who cannot devote their plants to war purposes, they will have to stand the losses as best they may. It is their contribution to the war, negative contribution though it may be. It might be urged again that their losses should be underwritten by the government; but this is seldom if ever the way in war times. It doesn't somehow seem quite fair or necessary. But it is nevertheless one of the grave individual injustices of war that those unfortunately placed in the industrial

system must lose their all, the while their more fortunate fellows make inordinate profits on war orders.

It may also be urged that excessive general economy would result in throwing men out of employment too soon, that is, before places were ready for them in the new industrial order. There is undoubted point to this contention; but it should be recalled that many thousands could have found employment upon the farms as early as April and that it has been impossible to secure sufficient laborers for the construction of munitions plants, shipyards, etc. I am far from arguing that there would be no loss of energy here. It is indeed another weakness of our pecuniary system that substantial loss must be sustained in the transition process. It may be asked here, however, should not the transition take place slowly in order to reduce the losses involved to a minimum? Ordinarily *gradual* readjustment would be advisable, but when we are engaged in a race with time, we must ride roughshod. To delay the transition is to avoid minor losses on the way, it is true, but possibly (again the alternative) it is to incur an incomparably greater loss through failure to get mobilized in time to defeat the enemy. So long as we rely upon economizing as a means of driving industry into the required channels we may almost say that in a crisis such as the present the more rapid and severe that economizing the better. It gains *time*, and *time* is nearly everything.

V

There remains a final and most important problem in connection with this process of readjustment. If businesses are compelled to close their doors, how can they meet their maturing obligations at the banks; and if their loans are not paid, how can the banks maintain specie payments? What is to prevent a general panic and the shattering of the entire credit structure? It is obvious that we have here a different and at the same time an extremely vital problem. We cannot coldly argue, Let the banks stand their losses and charge them to the account of general welfare; for the banks occupy a strategic position in the industrial system. The failure of a single important bank is likely to result in a series of failures and a general disruption of credit, carrying down the

sound and the indispensable business as well as the unsound and the dispensable. The solvency of the banks must be maintained at all costs, for on them is reared the entire business fabric.

In analyzing this aspect of the problem it is first to be noted that the closing of the doors of a manufacturer or merchant does not always mean that he will be unable to meet his loans at the bank. The modern practice of loaning only when the quick assets of the borrower (after the loan) are twice the current liabilities would in some cases permit the loan to be paid when the business was liquidated. Again, our bankers as a whole are now in a position of unusual strength, with large excess reserves, and they would therefore be enabled to stand substantial losses for an interval—until the new war business should replace the discarded peace business—without being in danger of insolvency.

But in the event of great dislocations of industry and widespread inability to pay bank loans by the failing industries (and this would be likely to be the case if we should economize as rigidly as the situation seems to demand) we could still look to the federal reserve banks for aid. The federal reserve banks have enormous reserves available for just such an emergency, and a policy of liberal rediscounting would probably provide in full measure for the requirements of the situation. Let me not be misunderstood here. I do not mean to say that the notes of the failed businesses should be rediscounted. There would doubtless be sound paper in ample quantity in the form of notes of concerns producing indispensables, together with new paper arising out of the rapidly developing war business. There is necessarily some conjecture here, of course, and there is always the reasonable doubt that even this resort would not suffice. In such an event, if the federal reserve banks should indeed be pressed to the limit of their resources, some of the funds raised by the government could be turned over to the federal reserve banks to meet the requirements of financial mobilization. It would perhaps appear extremely radical, even dangerous, to urge that the government should invade the field of banking and turn its funds directly over to individual banks in distress; it might open the door to political intrigue, favoritism, loose bank management, etc. But it is quite another matter to deposit these

funds with federal reserve banks under the control of the Federal Reserve Board. Their distribution to the points of tension in the system, to the banks in danger of insolvency, would then be controlled by ordinary banking processes. Since the banks occupy a strategic position in the whole industrial system, such a use of government resources would be entirely justifiable, and one of the most effective it could possibly make. As already indicated, however, it is hardly likely that such a step would be required. The requisite mobilization could probably be handled by the existing resources of the federal reserve banks. In any event, are not the exigencies of the situation such as to warrant a thorough trial of the possibilities of the federal reserve system?

State banks and trust companies not members of the federal reserve system of course do not have direct access to resources of the federal reserve banks, and here lies our chief danger of financial disrapture.¹ Indeed the failure of a number of large state banks and trust companies at a critical moment might endanger the whole credit structure. We have here an excellent illustration of the evils of a dual banking system, half national, half state, half organized, half disorganized, and a powerful argument for an early entrance of the state banks into the federal reserve system. In this connection it is encouraging to note the recent decision of a large percentage of our important state banking institutions to take this step before it is too late.

¹ The Federal Reserve Board has made two announcements of late which give promise in this connection:

1. Provision has been made that notes of non-member banks, the proceeds of which have been used for the purchase or carrying of bonds, might be discounted with the federal reserve banks, with the indorsement of a member bank. (This provision lapses after July 15.)

2. General assurance has been given to savings banks and trust companies that the Board desired in every way to co-operate with them in avoiding shock or disturbance to existing conditions, and stood ready to secure reasonable extension of accommodations at federal reserve banks for the purpose of protecting the interests of such savings banks and trust companies in the event of necessity resulting from the withdrawal of deposits in order to purchase or invest in government bonds.

The policies relate to the dislocations caused by bond issues rather than by industrial readjustment; but they are nevertheless an earnest of what might be done to minimize the losses, and the shock of a period of industrial transition.

VI

To summarize our discussion of industrial mobilization through the machinery of finance: We have seen that indiscriminating excess-profits taxation and price control and the "business-as-usual" movement run directly counter to the rapid reorganization of industry. We have seen that the method is extremely costly and extremely slow and uncertain at best. We have seen, indeed, that where speed is the all-important factor it cannot be safely relied upon. Is it not important, therefore, that the United States seriously consider the method of industrial conscription?

By industrial conscription the government could transfer laborers from the industries that are unimportant to the fields of production that are imperatively necessary as rapidly as is required, without waiting, possibly indefinitely, for public economizing to force readjustment through the decline of profits and the closing of factory doors. Industrial establishments engaged in manufacturing commodities that are unnecessary for war purposes, could by industrial conscription be forced to convert themselves at once into factories for the manufacture of munitions and other war materials. New construction that is not necessary for war purposes could be halted and the energy engaged therein diverted to the channels where imperatively demanded. Such a system would reduce to a minimum the social loss of time and energy incident to the transition period. *Wisely administered* (note the qualification) upon a basis of what may be called selective industrial conscription it would eliminate a great part of the confusion, disruption, and maladjustment incident to the ordinary financial method of readjustment.

Not only are the social losses involved in the transition less than under the method of gradual readjustment, but the direct losses to capitalists are almost certain to be less. Assume that *time* permits a gradual transition covering a period of two or three years. Would the losses through gradual readjustment by means of the financial machinery be less than through direct commandeering? The former method means vainly struggling along in present lines with lower margins of profits and heavy losses as reduced sales gradually develop; it is likely to mean with any given estab-

ishment months of loss before bankruptcy and then a considerable interval of no business at all while attempting to fit itself into newer lines of production. Only in cases where the rehabilitation of factories is a simple process can the conversion be made without excessive losses. Even in these cases, however, the tendency will be to delay the fatal step as long as possible, and this means until the pinch of declining profits is no longer tolerable. Under the method of industrial conscription, however, the conversion could be forced before the decline in profits threatens insolvency. And, moreover, the losses attending the entrance into the new lines of industry could be reduced to a minimum by directing capital to the places of greatest need. It is a method, substantially speaking, of carefully planned adjustment by a board of experts acquainted with the entire situation, as against the slow and uncertain method of trial and error by business men who hope and believe that business will continue as usual, and who, when eventually forced from present lines of activity, find themselves only partially or inaccurately acquainted with the government's requirements.

But aside from all this it must be emphasized that the method of industrial conscription saves what is at present more precious than gold itself—it saves time. If selective conscription of men may be justified on the ground that the volunteer system is hopelessly slow and uncertain where speed and certainty are indispensable, may not conscription of industry be justified on the same grounds? If ships, munitions, and food rather than soldiers are to render our greatest service to our Allies, why resort to the method of efficiency in the raising of armies and the method of inefficiency and uncertainty in the raising of crops and supplies?

Shall we answer because conscription of industry is un-American, because it places autocratic power in the hands of a democratic government and strikes at the very foundation of our institutions—private property, vested interests, free initiative, individual liberty, competition, and all the rest? A similar answer may be, and has been, made with reference to military conscription, but we have overruled the objection there mainly on the ground that the time element is so tremendously important that ordinary peacetime principles and ideals have to give way. Much as we may

dislike the principle and method of conscription, do we not dislike and fear the alternative—the indefinite eclipse of democratic institutions—more?

In one important respect industrial conscription is incomparably less objectionable than military conscription. The man who is compelled to serve in the army is forced to offer life itself in the cause for which he is enlisted; the man who is compelled to close his factory or convert it to different uses; the man who, as a laborer, is compelled to change his employment, at best offers but his services for a smaller remuneration. It is the old question of life versus property. The nation which protests and believes that there is *all* difference between a prize court and a submarine—between temporary detention of our ships and their cargo with legally determined compensation after the war and the sinking of our ships and citizens without a warning—can make so far as justice is concerned only one decision on the question of industrial versus military conscription.

The method of industrial conscription obviously raises enormous problems of its own. How shall we provide the machinery necessary to its successful administration? Who shall be given the power to decree life or death for industrial establishments in the exercise of the selective requirements of the plan? Who shall decide what industries are important to keep alive in war time—for recreational and cultural purposes as well as for physical and military requirements? What man or what body of men can be found with the necessary omniscience, with the requisite prevision, for such a method of industrial reorganization? I have spoken of a board of experts, but a friend of mine remarks: "We may call them experts, but that does not make them really expert; they would be sure to make no end of mistakes; they are not in a position to determine in anything approaching a scientific manner what lines of human endeavor count for most." That there is point to such contentions in piping times of peace I would be the last to deny, but in time of war the problem is profoundly changed. An administrative board giving its entire time to the study of the situation could, it seems to me, determine and guide with considerable wisdom the apportionment of our national energy. The insistent

demands of the war department for ships, for munitions, for supplies, furnish abundant evidence of the things that are needed most; the demand side of the problem certainly has no insuperable obstacles. The determination of what particular commodities shall be dispensed with is perhaps not so simple a task. But could not any of us upon reflection think of a score of commodities that are less important for war purposes than shells, than food, than shovels, than airships? We need not look for 100 per cent efficiency in order to justify the effort. *Any* percentage of efficiency would be a net gain over the present method of sheer inefficiency.

For great as are the problems of industrial conscription, and many as are the mistakes and blunders that would doubtless be made in its administration, is it not more to be trusted than the uncertain financial method of reorganization through the economizing of the people? Recall that the method we have been following relies for its success, not upon the concentrated thought and efficiency of a board of experts imbued with a national point of view even if not possessed of the requisite experience; it relies rather upon the individual self-interests and the unreasoned impulses of the masses of society. Each and every business man, each and every laborer, for individual reasons, resists giving up his accustomed activity as long as possible. And when it comes to economizing as an agency for forcing industrial readjustment it must be remembered that normal consumptive desires press hard upon us. Self-denial and rigid economy come hard enough, even when we fully recognize the need. Recall also that the method relies upon the advice of good people concerned over the suffering that will be entailed in the process of transforming industries; of business men and bankers who plead that business must go on as usual or the nation will be unable to finance the war; of the producers of luxuries who urge that we must avoid at all cost the evils of unemployment; of piano manufacturers who plead that when the whole earth is out of tune some one must keep in motion the music of the spheres; of the professor who insists that our colleges and universities should go on as usual lest in these hours of darkness the torch of knowledge and civilization be extinguished.

VII

In a preceding paragraph attention was called to England's eventual abandonment of the unaided financial method of industrial reorganization. In September, 1915, a Priority Committee was formed, which in March, 1916, became a full-fledged department of the British Ministry of Munitions. This department developed a simple classification of industry, whereby any contract placed by the Ministry of Munitions, War-Office, or Admiralty must be filled before the needs of ordinary industry are met.¹

The United States has also discovered that some central control of industry must be developed by means of which materials vitally required for the prosecution of the war may be prevented from going to fill the demands of non-war business. We have discovered in five months what England found out in thirteen—that the financial method cannot be relied upon with safety, that it must be supplemented by centralized control. Our War Industries Board, under date of September 21, 1917, makes public a priority classification as follows:

Class A comprises war work: that is to say, orders and work urgently necessary in carrying on the war, such as arms, ammunition, ships, etc., and the materials required in the manufacture of same.

Class B comprises orders and work which, while not primarily designed for the prosecution of the war, yet are of public interest and essential to the national welfare, or otherwise of exceptional importance.

Class C comprises all orders and work not embraced in Class A or Class B.

There are various subdivisions of these classes, indicated by a suffix number, thus: A₁, A₂, etc., B₁, B₂, etc.

All orders and work in Class A shall take precedence over those in Class B and those in B shall take precedence over those in Class C.

When rigidly applied to such fundamental materials as iron, it will be readily seen that this priority system reaches into nearly every branch of industry and that people who wish iron

¹ There were numerous subclasses, similar to that of our own priority classification given on the next page.

and steel for ordinary industrial requirements will be forced to wait—and wait indefinitely, since the demands of the war industries are certain to be simply insatiable.

But while this method will insure the diversion of materials to war purposes it still remains a negative rather than a positive system. It does not directly commandeer industry and decree that certain industries shall be closed down or converted to war business, *nolens volens*. It is at best a partial measure, though a tremendous improvement over the unaided financial method of industrial reorganization.

England has at last discovered that priority alone will not suffice. This last year England has in fact gone all the way and now has virtual industrial conscription. England eventually found that, with ultimate victory dependent upon ultimate resources, her reorganization of industry must go to the very foundations of her national life; she found that her man power and her machine power must be expended with an eye single to military victory—she found that every ounce of energy devoted to the production of luxuries and nonessentials was an ounce of energy taken away from the creation of the war supplies upon which her very life as a nation depended. In the words of H. R. Brand, vice-chairman of the British War Mission, "The government has of necessity compelled the whole of British industry to produce for war and to produce what it is told to produce. No man is free to do what he likes with his labor and capital, with his ships, or with his steel. Many trades have been actually compulsorily shut down and the labor taken from them and handed over to war industries. . . . Instead of gramophones the gramophone company now makes fuses; instead of cloth for ordinary clothes the woollen factory makes khaki; instead of motor-cars the motor-car maker makes shells."¹

We are engaged in a mortal struggle with a nation that has long since learned the lesson of industrial mobilization. Do we marvel at Germany's powers of resistance? Have we not all wondered how the Central Powers have been able to finance the war? Let us remember that Germany has since early in the war followed

¹ Address before American Bankers' Association, September, 1917.

largely the method of industrial conscription. The Germans are not wasting their national sustenance like sailors in a drunken orgy. They are down to the brass tacks of the situation. As soon as it became apparent that the war would be long the German government promptly abandoned the price and profits method of industrial reorganization, and substituted therefor the method of commanding. A certain percentage of the energy of the Teutonic Powers was, through the central authorities, directed to the fighting units on the various fronts, a certain percentage to the production of munitions and other army supplies, a certain percentage to the construction of submarines, and a certain percentage to the production of foodstuffs. The principles of military organization were thus universalized and made to apply to every aspect of national life. The ability of the Central Powers to hold out indefinitely depends, therefore, not upon finance, or the amount of the national debts, for national debts owed to one's own citizens are merely the paper claims of individuals to present and future national wealth; the Teutonic power of resistance depends rather upon the ability of the armies in the field to hold the lines; upon the ability of the agricultural quota to produce enough food to sustain life and physical efficiency—in short, upon the working strength of each part of the great national machine. The Central Powers are conserving every ounce of their energy. The vastly superior resources of the Entente nations may indeed bring us victory in the end whether we squander our patrimony or not; but it should never be forgotten that the wasteful method is also the tremendously costly method—costly in terms of property and costly in terms of human life.

The brains at the head of the German organization doubtless counted on our resorting to the slow and uncertain *financial* method of industrial rehabilitation when the fateful decision was formed to make unrestricted use of the submarine and sink at sight. As we enter the struggle before us shall we heed perhaps the greatest lesson that the war has taught to those who have been through the fire? In choosing our method of industrial reorganization, will it not be salutary always to have in mind that it is with Germany and Germany's methods that we are competing?

France, through a negative process, has had what amounts to conscription for industry from the very beginning. Three-quarters

of the male laboring population between the ages of eighteen and forty-five was called to arms literally over night. As a result French industry was paralyzed. In the course of a few months, when the pressure was somewhat lessened on the Western Front, the government recalled from the lines skilled mechanics and laborers whose greatest service henceforth lay in rebuilding the shattered industrial life. But when recalled for industrial service they were directed to the production of only such commodities as were imperatively required for the successful prosecution of the war. Working with women and children and with imported Spanish, Portuguese, and Italian laborers, they have succeeded, in spite of the German occupation of France's richest industrial area, in producing great quantities of the supplies and materials required by the armies at the front. Does anyone imagine that France could have held out during the long months of waiting for her allies to get ready if these men who were recalled from the trenches had been set to producing luxuries and nonessentials?

The end has not yet been reached in this country; indeed, the government has now clearly seen the handwriting on the wall, and we are almost at the parting of the ways. In a recommendation made late in October by the Council of National Defense, we find this significant statement:

New enterprises which are not fundamental to the efficient operation of the countries' *necessary* activities should not be undertaken. . . . All effort should be centered to help win the war. . . . Men who are considering new enterprises—public improvements, dwellings, factories, industrial work of every description, etc.—should be guided by this acid test.

So much for *new* business.

Even more significant of the developments in store for us are the words of the final paragraph:

The action of the Council of National Defense should *prepare the minds* of business men for similar action in regard to the *full operation* of those industries not essential to the national defense, or to the consumption by the public of luxuries and non-essentials. In fact, in the course of time no one need be surprised if during the war the use of labor and materials for *all unessential* purposes is made impossible by regulation or statute.

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